



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|---------------------------|-----------------------|------------------|
| 10/749,792 | 12/31/2003 | Muralcedhara Herur Navada | 10559-907001 / P17955 | 5367 |
| 20/985 | 7590 | 08/19/2008 | | |
| FISH & RICHARDSON, PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022 | | | EXAMINER | |
| | | | NGO, NGUYEN HOANG | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2616 | |
| | | | MAIL DATE | DELIVERY MODE |
| | | | 08/19/2008 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/749,792
Filing Date: December 31, 2003
Appellant(s): NAVADA ET AL.

Hwa C. Lee
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 6/9/2008 appealing from the Office action mailed 11/26/2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

| | | |
|-------------|---------------|--------|
| 20030147412 | Weyman et al. | 8-2003 |
| 5721820 | Abali et al | 2-1998 |

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Applicant's arguments, see appeal brief, filed 6/9/2008, with respect to claim rejections under 35 U.S.C. 112 with regards to claims 7, 14, 30, and 31 have been fully considered and are persuasive. The rejection of claims 7, 14, 30, and 31 has been withdrawn.

2. Claims 1-14 and 21-23, and 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weyman et al. (US 20030147412), in view of Abali et al. (US 5721820), hereinafter referred to as Weyman and Abali.

Regarding claim 1, 6, 8, 13, 21, 29, Weyman discloses a method comprising:

receiving a packet at a packet forwarding device (unit 0) in a stack of packet forwarding devices (seen from figure 1), wherein the packet is received from a source device external to the stack (a packet entering (from external device) the stack and requiring routing is routed by the unit that receives the packet, abstract);

at the packet forwarding device that received the packet (lead router) from the source device, processing the received packet to (page 1 [0008] and page 2 [0025]):

identify a destination device external to the stack of packet forwarding devices (egress port (into an external device from the stack) is on a different unit, after routing the packet will be forwarded by bridging to the unit owning the port, page 2 [0025]), and

determine whether at least one other packet forwarding device is to receive the packet before reaching the identified destination device (determine if egress port is on different unit, page 1 [0008]);

detecting that the at least one other packet forwarding device in the stack is to receive the packet before reaching the identified destination device (detecting if the egress port is on a different unit then, after routing, the packet will be forwarded by bridging to the unit owning the egress port, page 1[0008]).

Weyman however fails to specifically disclose inserting a vector in the received packet, wherein the vector includes data that identifies the identified destination device and the at least one other packet forwarding device in the stack of packet forwarding devices to receive the packet. Weyman however discloses that only the lead router need run a full routing protocol, and that any routing protocol is appropriate (page 3 [0040]), thus providing the motivation to use some type of protocol so that a packet may properly reach its destination. Abali further discloses of a source routing protocol in which the packet route information (inserting vector which includes data that identifies the identified destination device and the at least one other packet forwarding device) is embedded into the packet by the source node (lead node) and that the source processor (lead node) determines the route and encodes the routing instructions in the packet header and that each word in the header indicates a switch port (id for destination device and at least one other packet forwarding device) to forward the packet to (col1 lines 25-65 and figure 2-4). It would have thus been obvious to a person

skilled in the art at the time of the invention, to incorporate the concept of source based routing in which insert routing information (vector) into a packet as disclosed by Abali into the method of routing data through stacked network routers as disclosed by Weyman in order to correctly and efficiently communicate data through a stacked routers.

Regarding claim 2, 9, 22, the combination of Weyman and Abali, more specifically Weyman discloses using the inserted vector and a table to determine a port for sending the received packet to the at least one other packet forwarding device in the stack of packet forwarding devices (routing tables, page 2 [0022]).

Regarding claim 3, 10, 27, the combination of Weyman and Abali fails to specifically disclose copying the packet and sending the copy of the received packet through the at least on other packet forwarding device in the stack of packet forwarding devices. Weyman however discloses of a checksum for the packet (page 2 [0022]) and it is further well known in the art of transmission errors. It would have thus been obvious to a person skilled in the art at the time the invention was made to copy the packet for sending in order to ensure proper transmission of a packet.

Regarding claim 4, 11, 28, the combination of Weyman and Abali, more specifically Abali discloses wherein inserting the vector comprises inserting the data that includes a data bit identifying each of the at least one other packet forwarding device in the stack

of packet forwarding devices to receive the packet (each word indicates a switch port and as the message packet proceeds in the network, each switch examines the first word and forwards the packet through the indicated output port (another router to receive the packet), col1 lines 45-60).

Regarding claim 5, 12, 23, the combination of Weyman and Abali, more specifically Abali discloses the method of claim 1 further comprising:

removing the inserted vector from the received packet before for sending the packet to the destination device external to the stack of packet forwarding devices (the switch also strips off the first word before forwarding the packet to the next level in the network. Thus the packet contains no routing information upon arriving at its ultimate destination, col1 lines 59-65).

Regarding claim 7, 14, 30, 31, the combination of Weyman and Abali fails to specifically disclose modifying the vector to identify which of the at least one other packet forwarding device has already received the packet. Abali however disclose stripping off words (removing data bits identifying packet forwarding devices in a stack) before forwarding the packet to the next level, (col1 lines 59-65). It would have thus been obvious to a person skilled in the art to modify the vector (instead of removing bits in the vector as disclosed by Abali) in order to correctly portray the path that a packet has taken through a stack of routers.

(10) Response to Argument

1. Applicant's arguments, see appeal brief, filed 6/9/2008, with respect to claim rejections under 35 U.S.C. 112 with regards to claims 7, 14, 30, and 31 have been fully considered and are persuasive. The rejection of claims 7, 14, 30, and 31 has been withdrawn.
2. Applicant submits that the combination of Weyman and Abali fails to specifically disclose "when detecting that the at least one other packet forwarding device in the stack is to receive the packet before reaching the identified destination device, inserting a vector in the received packet, wherein the vector includes data that identifies the identified device and the at least one other packet forwarding device in the stack of packet forwarding devices to receive the packet." Applicant further submits that the Examiner mistakenly believes that the source node/processor in Abali is the claimed packet forwarding device that inserts the vector in the received packet. Examiner however respectfully disagrees. Examiner simply uses the teachings of Abali to illustrate the well known concept of a source routing protocol in which packet route information (correlating to a vector) is inserted by a source node, as agreed upon by Applicant (see Appeal Brief, page 8). Examiner agrees that the route words are inserted by the source processor and not the switch that received the packet, as stated in the Appeal Brief. Examiner however simply relies on Abali to illustrate the concept of inserting a vector into a packet so that the packet can reach the proper destination. Examiner thus relies on Weyman to illustrate "detecting that the at least one other packet forwarding device

in the stack is to receive the packet before reaching the identified destination device (forward packets by the lead router to other units in the stack where the destination ports are on a unit other than the unit which first received the packet (lead router)."

Weyman is however silent in specifically stating how this is accomplished, but states that only the lead router need run a full routing protocol, which may be any appropriate routing protocol (page 3 [0040]). It would have thus been obvious to a person skilled in the art at the time the invention was made to take the concept of inserting route words as taught by Abali into the lead router (forwarding device) of Weyman, in order for the lead router to correctly and efficiently forward the packet to the correct destination.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Nguyen Ngo/

Conferees:

Firmin Backer

/FIRMIN BACKER/

Supervisory Patent Examiner, Art Unit 2616

/Aung S. Moe/

Supervisory Patent Examiner, Art Unit 2616